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| DERWENT- | 2005-325243 |
| ACC-NO: | |
| DERWENT- | 200534 |
| WEEK: | |
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| TITLE: | Low permeability transparent electroconductive base material for display device, has conductive layer of carbon black microparticles and binder matrix, and coat layer having blue and/or red type pigment microparticles, and binder matrix |

PATENT-ASSIGNEE: SUMITOMO METAL MINING CO [SUMM]

PRIORITY-DATA: 2003JP-0332993 (September 25, 2003)

PATENT-FAMILY:

| PUB-NO | PUB-DATE | LANGUAGE | PAGES | MAIN-IPC |
|-----------------|----------------|----------|-------|-------------|
| JP 2005099421 A | April 14, 2005 | N/A | 019 | G02B 001/11 |
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APPLICATION-DATA:

| PUB-NO | APPL- DESCRIPTOR | APPL-NO | APPL-DATE |
|---------------|---------------------|----------------|----------------------|
| JP2005099421A | N/A | 2003JP-0332993 | September 25, 2003 ✓ |

INT-CL
(IPC): B32B027/18, C03C017/34 , G02B001/11 , H01J009/20

ABSTRACTED-PUB-NO: JP2005099421A

BASIC-ABSTRACT:

NOVELTY - The low permeability transparent electroconductive base material has low permeability two layer film which consists of low permeability transparent conductive layer (L1) and transparent coat layer (L2). Layer (L1) has low specific surface area carbon black microparticle, high specific surface area carbon black microparticle, and binder matrix. Layer (L2) has blue and/or red type pigment microparticle, and binder matrix.

DETAILED DESCRIPTION - The low permeability transparent electroconductive base material has a transparent substrate, low permeability two layer film which consists of low permeability transparent conductive layer (L1) containing carbon black microparticles formed on transparent substrate and a transparent coat layer (L2). The layer (L1) has low specific surface area carbon black microparticle with specific surface area of 50-200 m²/g, high specific surface area carbon black microparticle with specific surface area of 500-2000 m²/g, and a binder matrix as a main component. The layer (L2) has blue type pigment microparticles and/or red type pigment microparticle and a binder matrix as main component. The reflectance which is low in reflection spectrum of the visible light region in the base material is 2% or less. The low permeability two layer film has surface resistance of 40-95% and visible rate permeability of 105-1010 ohms/square unit. The high specific surface area carbon black microparticle is ketchen black microparticle. The blue type pigment microparticles or red type pigment microparticle is color pigment particles chosen from complex oxide pigment, quinacridone type pigment, anthraquinone type pigment, perylene type pigment, isoindolinone type pigment, azo-type pigment, phthalocyanine type pigment, dioxazine type pigment, cobalt violet, ultramarine blue, prussian blue, and titanium nitrate. INDEPENDENT CLAIMS are included for the following:

- (1) manufacture of low permeability transparent electroconductive base material;
- (2) coating liquid for Low permeability transparent electroconductive base material; and
- (3) display device.

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USE - For front surface board of display device (claimed) such as cathode ray tube.

ADVANTAGE - The base material has favorable color, and high film strength, low reflection rate and improved anti-static, electric field shield function and contrast. The low permeability transparent electroconductive base material is manufactured reliably and economically. The display device having excellent weather resistance is formed using the base material.

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| CHOSEN-DRAWING: | Dwg. 0/5 |
| TITLE-TERMS: | LOW PERMEABLE TRANSPARENT ELECTROCONDUCTING BASE MATERIAL DISPLAY DEVICE CONDUCTING LAYER <u>CARBON BLACK MICROPARTICLES</u> BIND MATRIX COAT LAYER <u>BLUE RED TYPE PIGMENT MICROPARTICLES</u> BIND MATRIX |

DERWENT-CLASS: E24 E37 G02 L03 P73 P81 V05

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|-----------------|---|
| CPI-CODES: | E21; E22; E23; E25-E; E31-H05; E31-N04D; E31-P02D; E32-B; G02-A05B; L03-C03; |
| EPI-CODES: | V05-D01B; V05-D07B3C; V05-D07B3E; V05-D07B3S; V05-D07C3C; |
| CHEMICAL-CODES: | Chemical Indexing M3 *01* Fragmentation Code C106 C810 M411 M424 M740 M782 M904 M905 M910 Q332 Q454 R032 R043 Specific Compounds 01669K 01669M 05085K 05085M Registry Numbers 1669U Chemical Indexing M3 *02* Fragmentation Code A422 A940 C107 C520 C730 C801 C802 C803 C804 C806 C807 M411 M424 M740 M782 M904 M905 Q332 Q333 Q454 R032 R043 Specific Compounds 03537K 03537M Chemical Indexing M3 *03* Fragmentation Code A426 A940 A980 C106 C107 C730 C801 C802 C803 C806 C807 M411 M424 M740 M782 M904 M905 Q332 Q333 Q454 R032 R043 Specific Compounds 06262K 06262M |

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Chemical Indexing M3 *04* Fragmentation Code
A103 A111 A119 A313 A547 A940 B114 B701 B712
B720 B831 C108 C116 C316 C416 C540 C802 C803
C804 C805 M411 M424 M740 M782 M904 M905 Q332
Q333 Q454 R032 R043 Specific Compounds 04838K
04838M

Chemical Indexing M4 *05* Fragmentation Code
A429 A960 C710 D000 E350 M280 M320 M411 M424
M511 M520 M530 M540 M630 M740 M782 M904 M905
M910 Q332 Q454 R032 R043 W002 W030 W326 W334
Ring Index 07541 Specific Compounds 01160K 01160M
Registry Numbers 1160U

Chemical Indexing M4 *06* Fragmentation Code
D000 D021 D022 D023 D024 D025 D029 E350 M280
M320 M412 M424 M511 M520 M530 M540 M630 M740
M782 M904 M905 Q332 Q454 R032 R043 W002 W003
W030 W031 W032 W033 W034 W326 W334 Ring Index
07541 Markush Compounds 200155-37407-K 200155-
37407-M

Chemical Indexing M4 *07* Fragmentation Code
D010 D019 D020 D029 D040 D049 F010 F019 F020
F029 G001 G002 G010 G011 G012 G013 G019 G020
G021 G022 G029 G040 G100 G111 G221 G299 K0 K5
K534 M1 M121 M122 M123 M124 M125 M126 M145 M280
M320 M412 M413 M414 M424 M510 M511 M512 M520
M521 M522 M530 M531 M532 M540 M740 M782 M904
M905 Q332 Q454 R032 R043 W003 W030 W031 W032
W033 W034 W111 W120 W130 W334 Markush Compounds
200155-37406-K 200155-37406-M

Chemical Indexing M4 *08* Fragmentation Code
D013 D016 D019 D021 D022 D023 D024 D025 D029
D611 D699 J5 J521 J522 L355 L399 L9 L930 L941
L999 M280 M320 M412 M424 M511 M512 M520 M530
M540 M740 M782 M904 M905 Q332 Q454 R032 R043
W003 W030 W031 W032 W033 W034 W334 Markush
Compounds 200155-37405-K 200155-37405-M

Chemical Indexing M4 *09* Fragmentation Code
D000 D021 D022 D023 D024 D025 D029 E570 M280

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M320 M412 M424 M511 M520 M530 M540 M740 M782
M904 M905 Q332 Q454 R032 R043 W003 W030 W031
W032 W033 W034 W334 Ring Index 06139 Markush
Compounds 200155-37404-K 200155-37404-M

Chemical Indexing M4 *10* Fragmentation Code
G000 G020 G021 G022 G023 G029 G450 M280 M320
M414 M424 M510 M520 M531 M540 M610 M740 M782
M904 M905 Q332 Q454 R032 R043 W003 W030 W031
W032 W033 W034 W334 Ring Index 06401 Markush
Compounds 200155-37403-K 200155-37403-M

Chemical Indexing M4 *11* Fragmentation Code
G020 G021 G022 G023 G024 G029 G331 K0 L9 L951
M280 M320 M414 M424 M510 M520 M531 M540 M740
M782 M904 M905 Q332 Q454 R032 R043 W003 W030
W031 W032 W033 W034 W334 Markush Compounds
200155-37402-K 200155-37402-M

Chemical Indexing M4 *12* Fragmentation Code
D011 D019 D021 D022 D023 D024 D025 D029 E350 J5
J522 M280 M320 M412 M424 M511 M520 M530 M540
M740 M782 M904 M905 Q332 Q454 R032 R043 W003
W030 W031 W032 W033 W034 W334 Ring Index 06261
Markush Compounds 200155-37401-K 200155-37401-M

UNLINKED-DERWENT-REGISTRY-NUMBERS: ; 1160U ; 1669U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2005-101706

Non-CPI Secondary Accession Numbers: N2005-265943